

FIG. 1

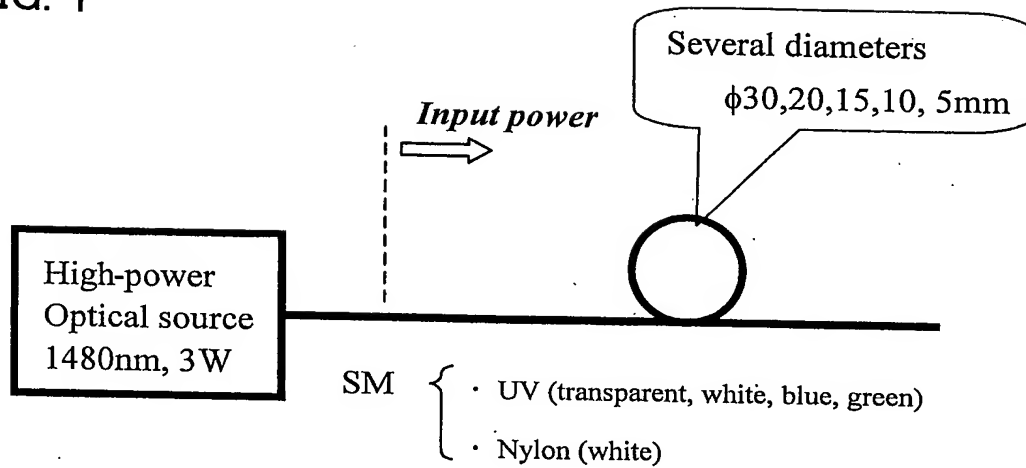


FIG. 2

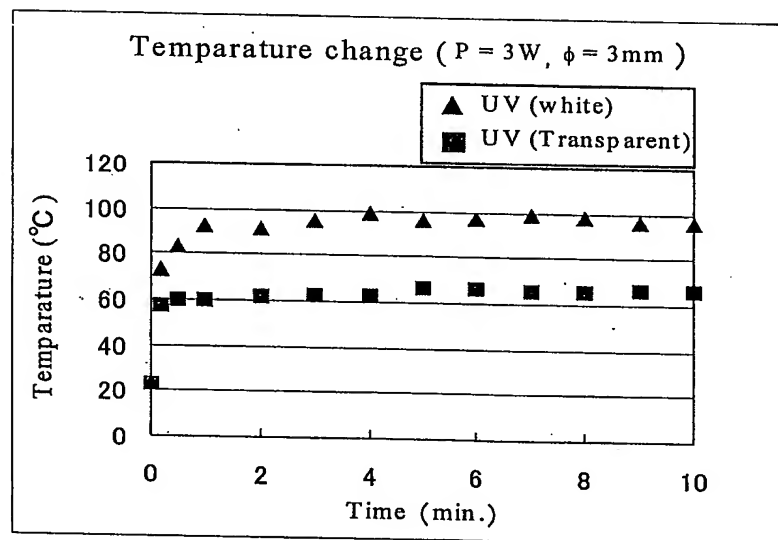


FIG. 3

Results after 5 min. exposure

Input Power 1480nm	Bend Diameter (mm)	Fiber Coating				
		UV (transparent)	UV (white)	UV (blue)	UV (green)	Nylon (white)
1 W	φ 30	No change	No change	No change	No change	No change
	φ 20	No change	No change	No change	No change	No change
	φ 15	No change	Deformed	Deformed	Deformed	Deformed
	φ 10	No change	Deformed	Deformed	Deformed	Deformed
	φ φ 5	No change	Deformed	Deformed	Discolored	Melted
2 W	φ 30	No change	No change	No change	No change	No change
	φ 20	No change	No change	No change	No change	No change
	φ 15	No change	Deformed	Deformed	Deformed	Deformed
	φ 10	No change	Deformed	Deformed	Deformed	Deformed
	φ φ 5	Discolored	Discolored	Discolored	Discolored	Combustion
3 W	φ 30	No change	No change	No change	No change	No change
	φ 20	No change	No change	No change	Deformed	No change
	φ 15	No change	Deformed	Deformed	Deformed	Deformed
	φ 10	No change	Deformed	Deformed	Deformed	Deformed
	φ φ 5	Discolored	Discolored	Discolored	Discolored	Combustion

FIG. 4

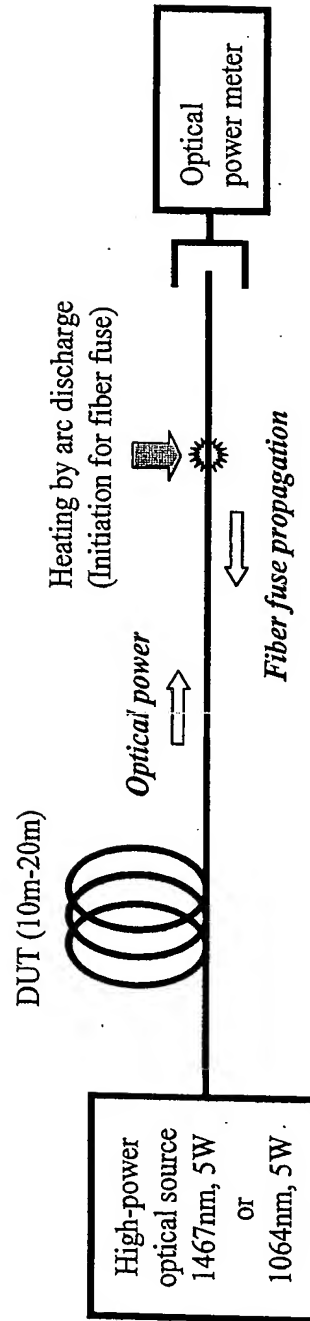


FIG. 5

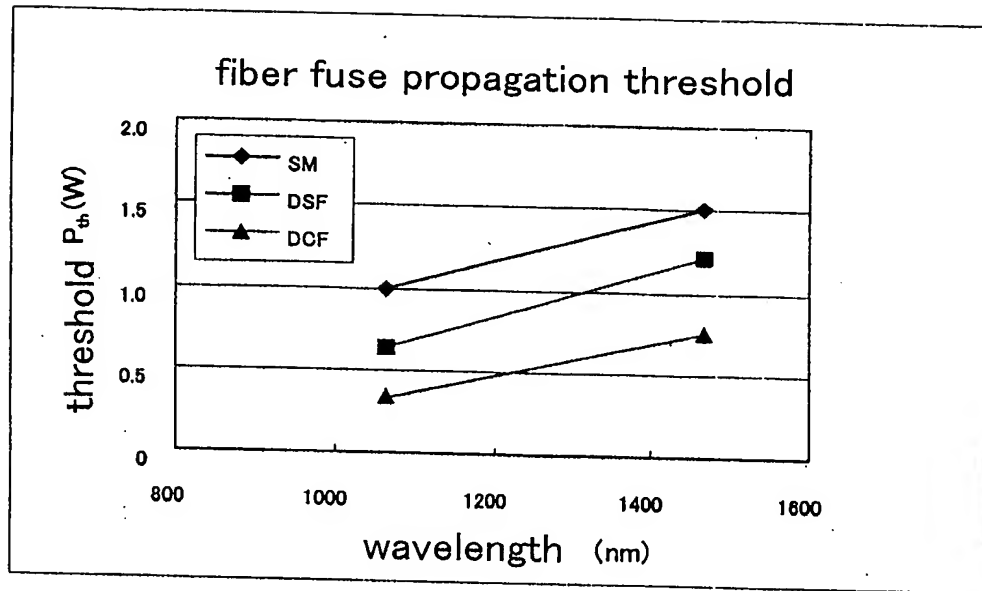


FIG. 6

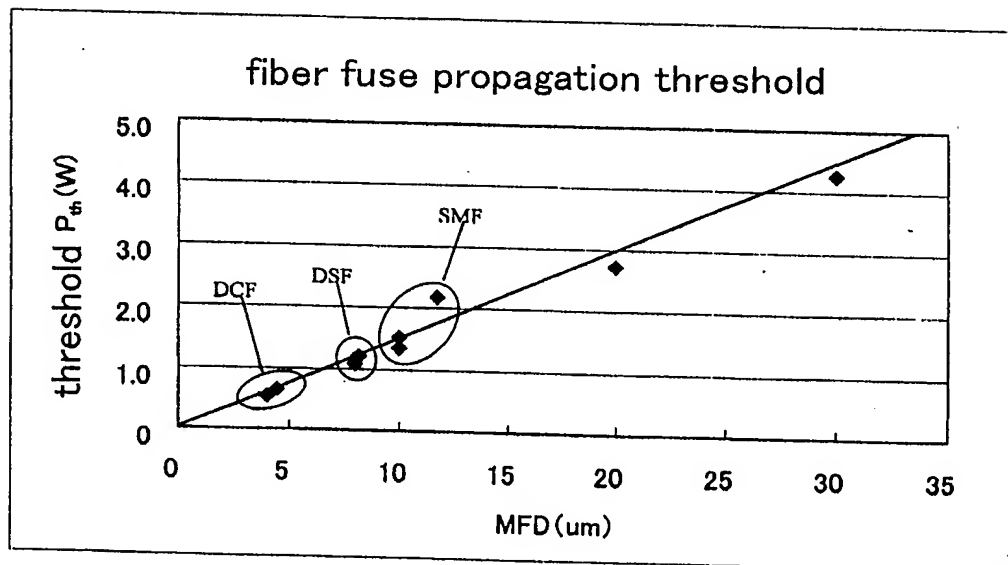


FIG. 7

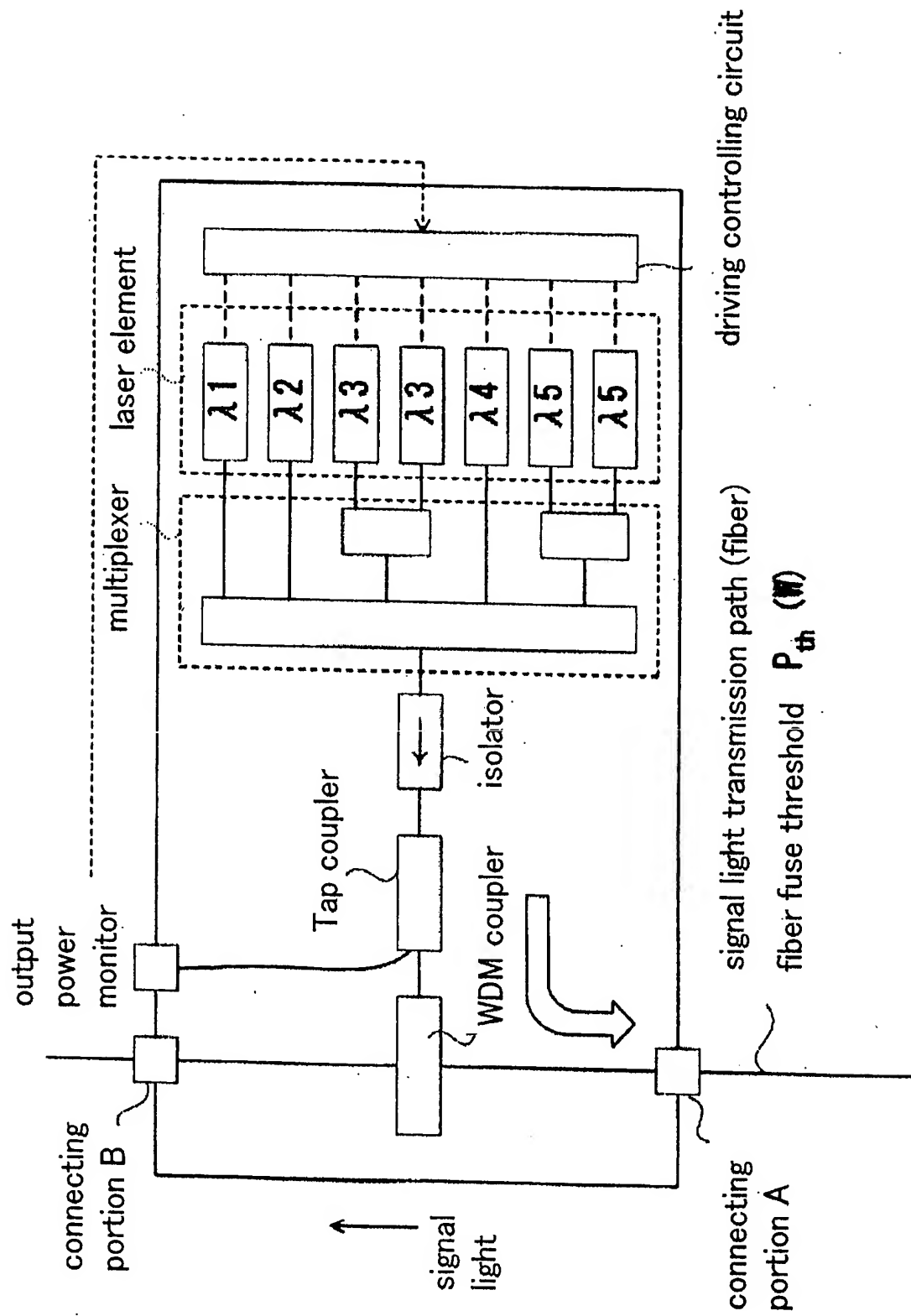
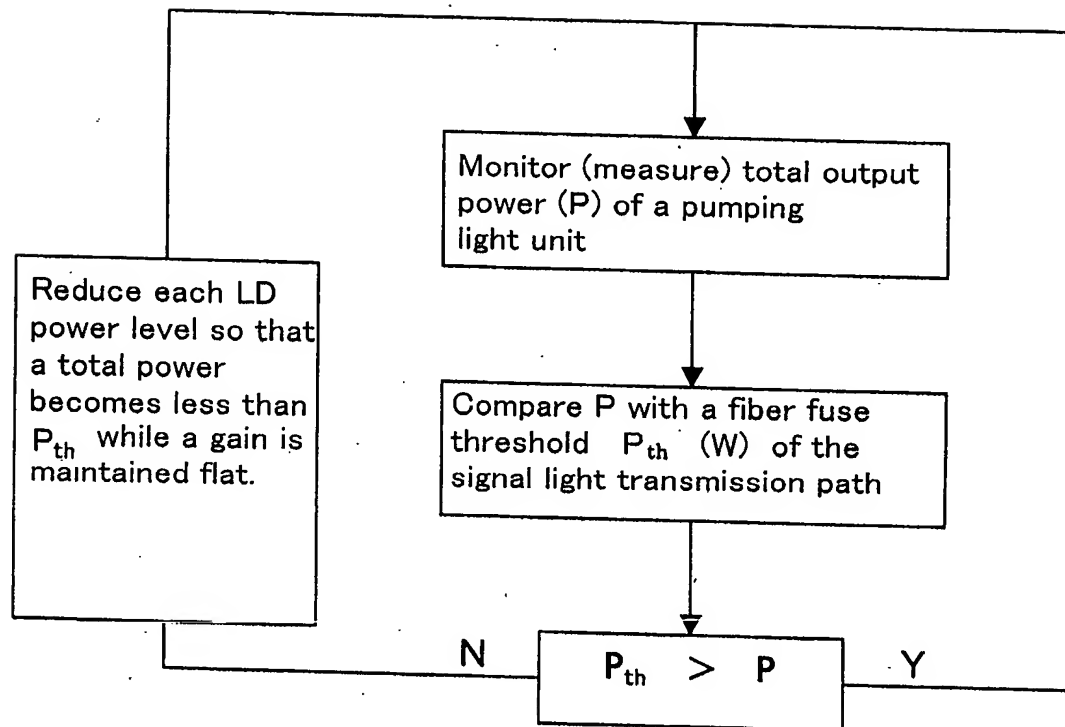


FIG. 8



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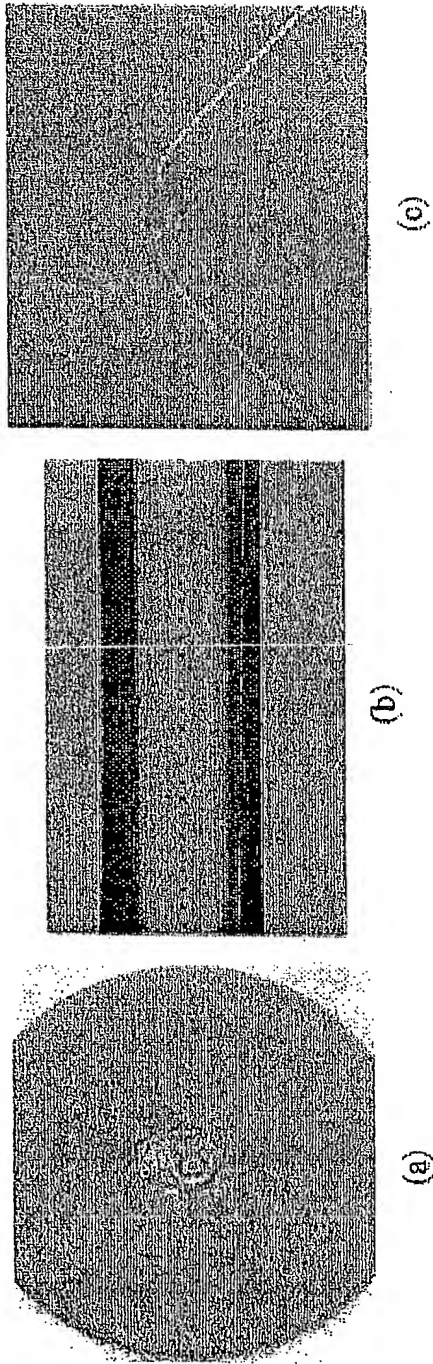


FIG. 9

FIG. 10

Test	Condition	Connection Loss	Result : 5 samples evaluated at 1480nm Laser (2W)
1	Furukawa - Standard	0.12dB (typ.)	No change : 5
2	Scratch in whole surface	0.18dB (typ.)	No change : 5
3	5 μ m scratch by file	0.78dB (typ.)	Temperature increase : 5
4	Ethanol	0.14dB (typ.)	No change : 5
5	Soil from hand	0.21dB (typ.)	No change : 5
6	Index matching oil + bubble	0.64dB (typ.)	No change : 2, Temperature increase : 3
7	Epoxy with black carbon	0.67dB (typ.)	No change : 1, Temperature increase : 2, Endface damaged : 2
8	Ni - plated	1.39dB (typ.)	Temperature increase : 2, Endface damaged : 3
9	Oil - based marker (black)	0.24dB (typ.)	Endface damaged : 4, Fiber fuse : 1
10	Phosphor bronze	1.12dB (typ.)	No change : 1, Endface damaged : 3, Fiber fuse : 1

FIG. 11

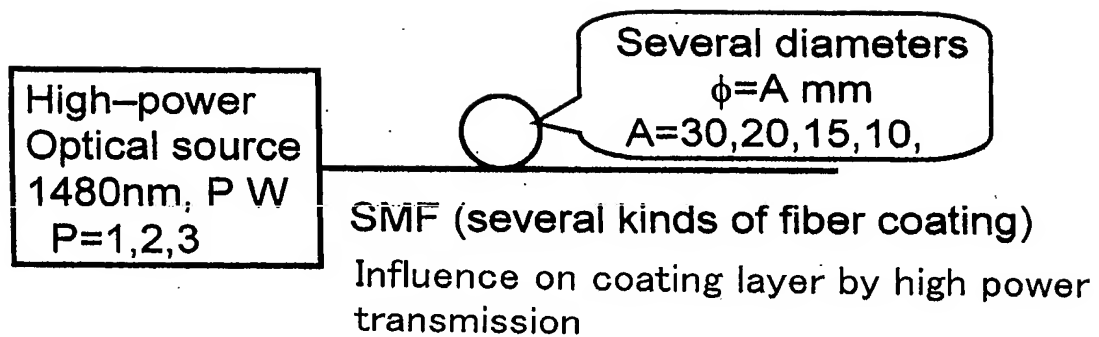


FIG. 12

Experiment result

Input Power 1480nm	Diameter (nm)	Example 1		Example 2		Comparative Example 1	
		blue	green	blue	green	blue	green
1 W	$\phi 30$	O	O	O	O	O	O
	$\phi 20$	O	O	O	O	O	O
	$\phi 15$	O	O	O	O	X	X
	$\phi 10$	X	X	O	O	X	X
2 W	$\phi 30$	O	O	O	O	O	O
	$\phi 20$	O	O	O	O	O	O
	$\phi 15$	O	O	O	O	X	X
	$\phi 10$	X	X	O	O	X	X
3 W	$\phi 30$	O	O	O	O	O	O
	$\phi 20$	O	O	O	O	O	X
	$\phi 15$	O	O	O	O	X	X
	$\phi 10$	X	X	O	O	X	X

In the table

X : coating layer deformed (irreversible state)

O : no change on coating layer

FIG. 13

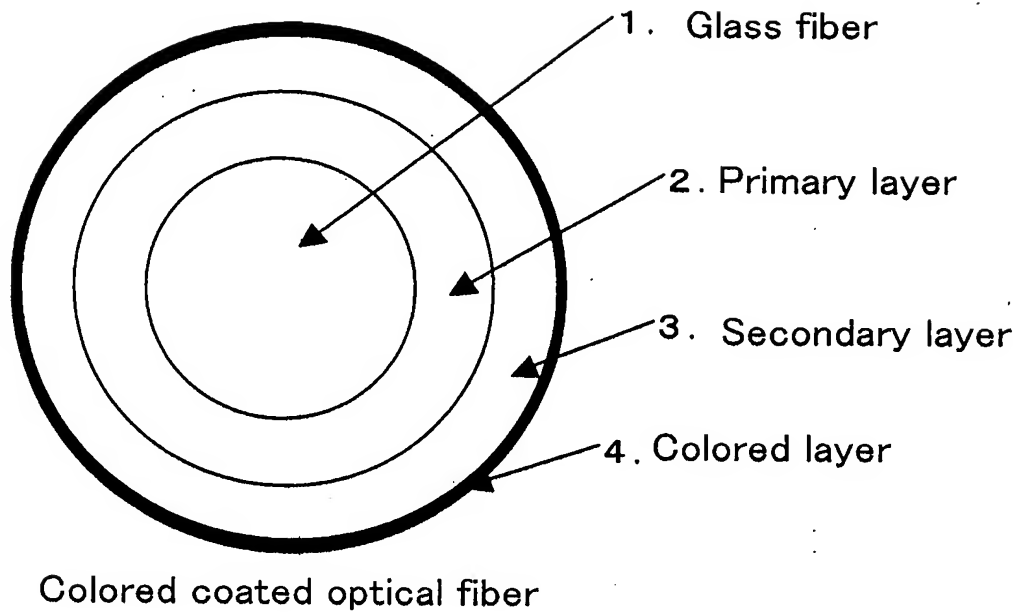


FIG. 14

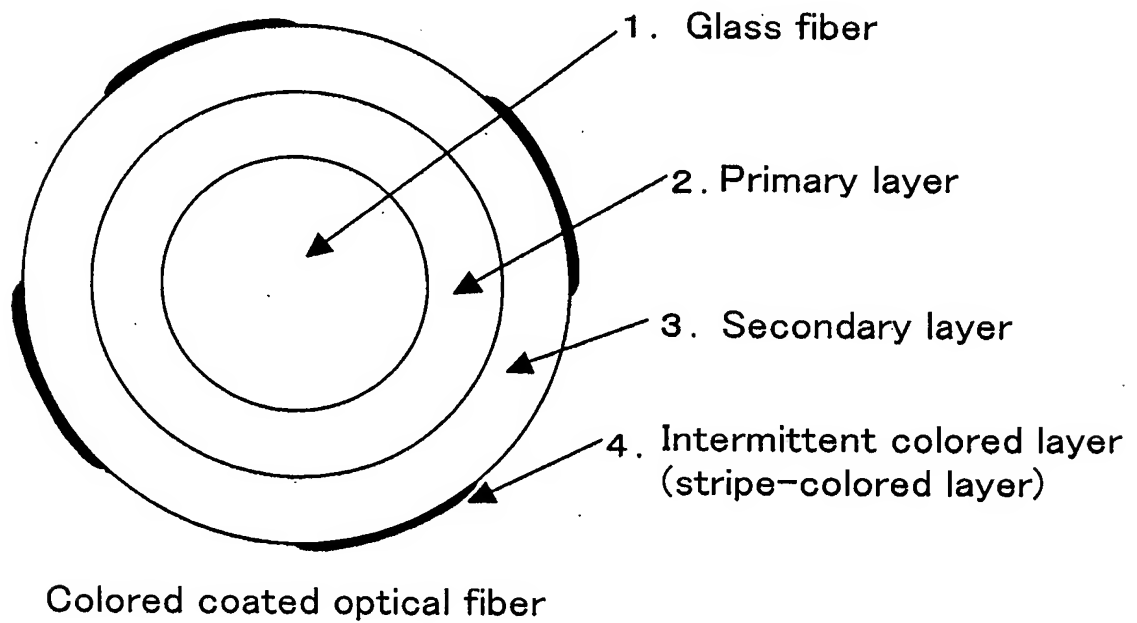
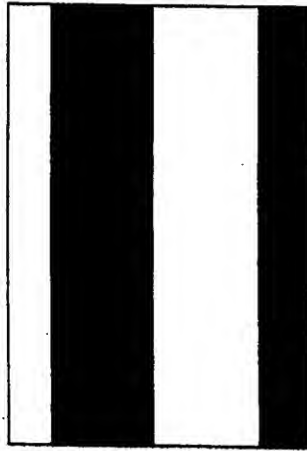


FIG.15



Side view of coated optical
fiber colored in stripes

FIG.16



Side view of coated optical
fiber colored in spiral
stripes